

have the product of their labors, then that means so much more.

So while we are the beacon of that freedom, the administration is trying to hold on to the old, abusive governmental waste of the past with white knuckles.

And so I say to you, Mr. President—not this Mr. President but Mr. President Clinton—that you are not going to win this battle because there was an election. When that election took place in November 1994, there were a lot of loud messages. They wanted to rebuild a strong national defense at the same time they wanted to balance the budget. We are going to do both.

They wanted to change the role of Government so it no longer has abusive control and power over the citizenry, and that is exactly what is going to happen.

So this is a very important debate that we are in the middle of right now, Mr. President, the debate on the role of Government, how abusive is Government, and for all those people around the world who look to us as that beacon of freedom we are going to keep that beacon very bright and shiny for them.

Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. HATCH. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. INHOFE). Without objection, it is so ordered.

TRIBUTE TO SENATOR PRYOR

Mr. JOHNSTON. Mr. President, Senator DAVID PRYOR is a man of many accomplishments. In his distinguished career, he has been a journalist and founder of a newspaper, a member of the Arkansas House of Representatives and a two-term Governor of his State. In Arkansas, they still talk about his achievements as Governor during the 70's recession. Carefully and caringly, he cut spending without cutting the programs that people depended on.

He is also a lawyer who served three terms as the Representative of the Fourth Congressional District of Arkansas. He has served three terms in this body as a U.S. Senator and the last time he ran, he was so popular that nobody bothered to run against him. As a member of the Agriculture Committee, he has actively shaped innovative programs and policies which have helped the farmers of Arkansas while furthering the leadership position of the United States in the world agricultural community.

More than anything else, what has distinguished Senator PRYOR's legislative work in the U.S. Congress has been his sensitivity to the needs of private citizens. As a member of the Senate Finance Committee, he wrote a "Tax-

payer Bill of Rights" which guaranteed—for the first time in 40 years—the rights of individual citizens in their dealings with the IRS.

Senator PRYOR is known as an advocate for senior citizens. His advocacy is based on an extensive acquaintance with their situation, a compassionate understanding of their needs and a thorough knowledge of the existing support systems for the elderly. As a Member of the House of Representatives, he at one point worked incognito to gain first-hand experience of conditions in the nursing home industry. He served for 6 years as chairman of the Senate Special Committee on Aging, and, as ranking member, is continuing the fight to save Social Security and bring down prescription drug prices.

Senators, and I was one of them, heard his announcement that he did not plan to run again in 1996 with both relief and great regret. Relief, because he works too hard. If by leaving the Senate he can stop working too hard, then that is the right thing to do, for his health and for his wonderful wife and family. But I do feel sincere regret, for the Senate and for the Nation, that in 1996 we will lose his legislative skills and his compassion for the individual. And speaking for myself, I feel genuine regret that our working relationship will be ending. It has been a warm, collegial, productive relationship for 17 years, most notably on the Aging Committee. I have appreciated both the astuteness of his insights and the pleasure of his company, and hope to do so for the remainder of our terms.

THE NUCLEAR AGE'S BLINDING DAWN

Mr. DOMENICI. Mr. President, 50 years ago yesterday, July 16, 1945, the course of human history was changed forever.

President Harry Truman, Winston Churchill, and Joseph Stalin were preparing for the European peace conference to end the war with Hitler and the Axis. There were major questions to be answered. Where would the conference be held? The war in the Pacific was still raging; would Russia enter into the war against Japan?

And, then, we learned about the events at Los Alamos, NM. We did not know that we had just succeeded in the greatest scientific race of all time, let alone the unquestionable magnitude of this achievement that would end the Second World War. Until this time, the activities at Los Alamos were shrouded in complete secrecy.

As recounted in several superb articles in New Mexico newspapers, the activities at Los Alamos changed the lives of New Mexicans as much as they impacted upon the rest of the world.

During the early morning of July 16, 1945, some of the citizens in New Mexico witnessed a sudden illumination in the sky. A friend of mine Rowena Baca, was quoted as saying that her "grandmother thought it was the end of the

world." This shocking irradiation incited Mrs. Baca's grandmother to shove her, as well as her cousin, under the bed. From underneath the bed, the two children saw the walls and ceiling reflect a red color. They were 35 miles from the Trinity sight, where the explosion occurred.

Dolly Oscuro's ranch used to include the land that became the Trinity sight. Where the cattle grazed, Mrs. Oscuro remembers looking out her window and seeing a rising mushroom cloud.

Helen and William Wrye, also ranchers, were returning home from a long and exhausting trip. They live in the same house that is 20 miles from the Trinity sight. They slept through the explosion. The radiation, according to Mr. Wrye, caused his beard to quit growing for a while. Of course, we are not sure that was the case, but at least that is what he perceives.

Mr. friend, Larry Calloway, who writes for the Albuquerque Journal, wrote what is in my opinion an articulate, well-documented, and human perspective of the first successfully tested atomic bomb. The article, "The Nuclear Age's Blinding Dawn," describes in detail the events of the night and morning leading up to this first display of atomic power.

Mr. Calloway's article portrays the human side of this historic day: about people such as Joe McKibben who wired the instruments that set off the implosion bomb; Berlyn Brizner who served as chief photographer; and Jack Aeby, a civilian technician who assisted in placing the radiation detectors—just to name a few.

"The Nuclear Age's Blinding Dawn" is worthy reading for all Americans. Many times, the specific event in history overshadows the individuals who made the event possible. Mr. Calloway tells us about the people in New Mexico who made this historic achievement happen.

Fifty years later, in hindsight, debate continues on the issue of whether development and deployment of the atomic bomb was the right thing to do. For example, a Smithsonian exhibit featuring the *Enola Gay*, the plane that dropped "Little Boy" on Hiroshima, becomes controversial. It is probably fair to suggest that the debate will rage for another 50 years. However, many believe that their work associated with this effort was right.

On this anniversary, let's turn to other aspects of this event. Our entrance into the Nuclear Age is as much about people as it is about science. It is the well known people: J. Robert Oppenheimer, Enrico Fermi, I.I. Rabi, Niels Bohr, Hans Bethe, Luis Alvarez, Emilio Segre, Norman Ramsey, Val Fitch, Aage Bohr, A.H. Compton, E.O. Lawrence, and James Chadwick, and Maj. Gen. Leslie R. Groves, to mention a few.

It is about the citizens of New Mexico who witnessed the Trinity test.

And, it is about the unsung workers and scientists at Los Alamos who were

important players in this enormous discovery. They were not alone. They were joined by many thousands in the State of Tennessee at Oak Ridge and other scientific locations around America. Together they performed their duties for a cause they believed in. The employees of New Mexico's national laboratories continue this legacy today.

In honor of these men and women, let us acknowledge their countless contributions since that time. Let us give appreciation for their dedication and commitment. These are the people who changed the course of human history.

I respectfully ask unanimous consent that the text of Mr. Calloway's "The Nuclear Age's Blinding Dawn," Fritz Thompson's article "Locals Had Ring-side Seat to History," and Patrick Armijo's article, "A-Bomb Scientists Bear No Regrets" be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

THE NUCLEAR AGE'S BLINDING DAWN

(A half-century ago on July 16, the United States detonated the first atomic bomb. The test, code named Trinity, was the conclusion of the Manhattan Project to build the bomb in a frantic race with Adolf Hitler's scientists. The explosion ushered in the nuclear age, gave rise to New Mexico's modern economy, led to Japan's surrender and set off 50 years of debate about the morality of using such awesome force.)

(By Larry Calloway)

For Joe McKibben, the Nuclear Age came in the back door without knocking. For Jack Aeby, it slipped blindingly through a crack in his welder's goggles. For Berlyn Brixner, it rose in dead silence like an awesome new desert sun.

After 50 years, they are among the few who remain to tell about the test of the first atomic bomb, made in the secret wartime city of Los Alamos and code named Trinity by lab director J. Robert Oppenheimer. The survivors are among the dwindling few on Earth who have seen any nuclear explosion. It's been 32 years since the last U.S. atmospheric test.

On that Monday, July 16, 1945, at 5:10 a.m., the senatorial voice of physicist Sam Allison began what's now called a countdown. "Minus 20 minutes" boomed over the loudspeakers and shortwave radios in the dark Jornada del Muerto in New Mexico's dry Tularosa Basin.

By space-age standards, it was a very short countdown, but it was probably the first in the about-to-be-born world of big science. "Sam seemed to think it was," McKibben says. "He told me, 'I think I'm the first person to count backward.'"

Just as Allison is remembered for the Trinity countdown, McKibben will probably be remembered as the guy who pushed the button. "That kind of annoys me," says McKibben, 82, folding himself down on a couch in his cluttered study in White Rock. "I consider it a minor part of my work."

EXHAUSTIVE PREPARATION

It wasn't minor at the time, of course. McKibben, a lanky Missouri farm boy-turned-Ph.D. physicist, sat at the Trinity control panel. For three months, he had been wiring instruments across 360 square miles of desert around a 100-foot steel tower. The fat implosion bomb, 5 feet round, 5 tons heavy, squatted in a harness of cables on a platform

on top. And the desert floor was scattered with instruments.

McKibben, of the University of Wisconsin, had spent the night at the tower on guard duty with two Harvard physicists, Trinity director Kenneth Bainbridge and Russian explosives wizard George Kistiakowsky, a former Cossack.

This was the second night of uneasy thunderstorms with close strikes of lightning in the Jornada.

McKibben fell asleep under some tarps on the clean linoleum floor at the tower base where the final assembly team had done its job carefully, very carefully.

And McKibben had a dream. It was simple, peaceful. "I started dreaming Kistiakowsky had gotten a garden hose and was sprinkling the bomb. Then I woke up and realized there was rain in my face."

EVERYTHING IN PLACE

Soon the rain paused, and Bainbridge rescheduled the shot for 5:30 a.m. After closing the last open circuits, the three physicists drove south in a jeep as fast as they could on the straight blacktop road.

They were the last men out of the zone of lethal heat, blast and radiation. The nearest humans were in bunkers called North 10,000, West 10,000 and South 10,000 because they were 10,000 meters (6.2 miles) from Ground Zero.

"We got to South 10,000 (the control bunker) at 5:10, and that was the time I needed to throw the first switch," McKibben recalls. Allison took up the microphone in the countdown booth. A quick young Harvard physicist named Donald Hornig, who would become President Johnson's science adviser 18 years later, took his place near McKibben at an abort switch. Hornig's job was to stop everything if the detonation circuit faltered, in order to save the first precious production of the Hanford, Wash., plutonium plant.

Kistiakowsky, who would become President Eisenhower's science adviser, was in and out of the crowded room. An 18-year-old soldier named Val Fitch was attending British scientist Ernest Titterton at a set of vacuum tubes that would deliver the detonating voltage 6 miles of cable. Fitch would win the 1980 Nobel Prize in physics. Also there was Navy Cmdr. Norris Bradbury, who would become director of the Los Alamos lab from 1945-70.

McKibben recalls these men but says, "I didn't see Oppenheimer. I was told that he came in the door and observed me at the controls and went away. Just to see that I was sane." And he laughs.

Hundreds turned their expectant eyes to the unforgiving New Mexico desert; it was a who's who of the scientific world.

At North 10,000, Berlyn Brixner was in the open on top of the bunker at the controls of a fast movie camera with a blackened viewfinder. "I was one of the few people given permission to look directly at the bomb at zero time," says Brixner, an amiable man of 84 sitting alertly in his minimalist living room in a ponderosa-shaded Los Alamos neighborhood.

Brixner's assignment as chief photographer was this: Shoot movies in 16-millimeter black-and-white, from every angle and distance and at every speed, of an unknown event beginning with the brightest flash ever produced on Earth.

"The theoretical people had calculated a . . . 10-sun brightness. So that was easy," Brixner says. "All I had to do was go out and point my camera at the sun and take some pictures. Ten times that was easy to calculate."

The theoretical people also knew a little about radiation, which fogs film, and Brixner consequently shielded two of his near-tower

cameras behind 12-inch-thick leaded glass. Some of his cameras were so fast they shot 100 feet of film in a second. Some were 20 miles away and ran for 10 minutes.

And now he waited on top of the bunker, gripping the panning mechanism of his movie camera, which like all the others would be turned on by signals from McKibben's control panel.

SNEAKING A CAMERA IN

At Base Camp, the old David McDonald ranch house 10 miles south of the tower, the box-seat audience included Maj. Gen. Leslie Groves, the hard-driving director of the whole Manhattan Project, and its presidential overseers—Carnegie Institute president Vannevar Bush and Harvard president James Bryant Conant. Among the physicists at Base Camp were I.I. Rabi, a New Yorker who would go on to win a Nobel Prize, and the revered Italian Enrico Fermi, who had led the research on the first nuclear chain reaction. Among the 250 lab workers and 125 soldiers was a young civilian technician named Jack Aeby who was exempt from the draft because he'd suffered from tuberculosis.

Now 72 and retired from a Los Alamos career in health physics, Aeby sits in his solar home near Española and recalls how his job in the weeks leading to the test was to help the Italian physicist Emilio Segré set radiation detectors near the tower. Some of the instruments were hung on barrage balloons tethered 800 yards from the tower. They'd be vaporized in a millisecond after they transmitted their nuclear data.

Aeby carried his personal 35 millimeter still camera, which Segré got through security, and as the countdown started, he was planning to take a new Anscochrome color transparency picture of the bomb. Aeby had carried a chair out into the darkness and was sitting there with the camera propped on the back and pointed north. He put on his government-issue welding goggles, not noticing in the dark that there was a crack in one lens. And he listened to the countdown on the Base Camp loudspeakers.

PREPARING FOR THE BEST

At the VIP viewing area called Compania Hill, 20 miles northwest of the tower and about 10 miles southeast of the village of San Antonio, N.M., two refugee physicists put on sunscreen in the dark. They were Edward Teller of Hungary and Hans Bethe of Germany. Teller would become famous as an advocate of the hydrogen bomb, and Bethe would win the 1967 Nobel Prize in physics.

Teller put on gloves to protect his hands and sunglasses under his welder's goggles, for extra protection. "I expected it to work," Teller, now 87 and bent, said in a June interview.

Not far away was German Communist refugee Klaus Fuchs, who would be uncovered as a Russian spy five years later.

Outside the Jornada, of course, New Mexico had eyes and ears. Teller said that many Los Alamos employees, including his secretary Mary Argo, clipped away to Sandia Crest for a direct 100-mile view of the shot that morning.

And in Potsdam, just outside the rubble of bombed-out Berlin, President Truman waited for coded messages so he could tell Josef Stalin what the Russians already knew.

But the rest of the world didn't have a clue. Not the B-29 pilots who had hit Tokyo, again, with 3,000 conventional bombs that Friday. Not the 750,000 American troops that would be needed in the planned Nov. 1 invasion of Japan.

A countdown. A bellow of "Zero!" Silence. A flash of light brighter than the rising of the sun. Then the shock wave hit, and the blast's roar echoed off the mountains.

At minus 45 seconds, McKibben cut in an automatic timing drum he and Clarence Turner had made to generate the final 20 relay signals, including the big one. The drum turned once a second, and McKibben says he had attached a chime that struck once each revolution. So there were 44 chimes before Allison yelled: "Zero!"

It was 5:29.45 a.m. Mountain War Time, the same as Mountain Daylight Time.

McKibben's bunker was under dirt on the north, and there was a small open door on the south, facing away from the shot.

"Suddenly, I realized there was a hell of a lot more light coming in the back door," McKibben says. "A very brilliant light. It outdid the light I had on the control panel many times over. I looked out the back door and I could see everything brighter than daylight."

Aeby had put his Perfex 44 camera on "bulb" and in the dark before "Zero" opened up the shutter, figuring that way he'd get a good image of the flash. Suddenly, the light cut a sharp white line across his vision. "I could see that crack for some time afterward," he says. It was daylight, and Aebly flung off the goggles to reset his camera. "I released the shutter, cranked the diaphragm down, changed the shutter speed and fired three times in succession," he says. "I quit at three because I was out of film."

Brixner, at North 10,000, was stunned. "The whole filter seemed to light up as bright as the sun. I was temporarily blinded. I looked to the side. The Oscura Mountains were as bright as day. I saw this tremendous ball of fire, and it was rising. I was just spellbound! I followed it as it rose. Then it dawned on me. I'm the photographer! I've gotta get that ball of fire." He jerked the camera up.

One thing more, he says: "There was no sound! It all took place in absolute silence."

UNIQUE SIGHTS AND SOUNDS

By the time the blast hit, 30 seconds after the flash, most of Brixner's 55 cameras in the desert were finished. Some had done their work in a second. There would be 100,000 frames to develop in black and white and a few in temperamental Kodachrome.

In the silence, McKibben stepped out the back door of South 10,000 and looked north over the bunker. "It was quite a pretty sight. Colored. Purplish. No doubt from the iron in the tower and a lot of soil off the ground that had been vaporized. I was surprised at the enormity of it and immediately felt it had gone big."

McKibben ducked behind the bunker just as the shock wave hit. "Then an amazing thing: It was followed by echoes from the mountains. There was one echo after another. A real symphony of echoes."

As the shock wave hit Base Camp, Aebly saw Enrico Fermi with a handful of torn paper. "He was dribbling it in the air. When the shock wave came it moved the confetti."

Fermi had just estimated the yield of the first nuclear explosion at the equivalent of 10,000 tons of TNT. Later measures put the yield nearly twice as much, at 18.6 kilotons. And this terrible new energy came from a plutonium ball weighing 13.6 pounds.

Thes test's success brought elation yet was tempered for many by the knowledge that the world had suddenly taken a hazardous turn.

Robert Van Gemert of Albuquerque, now 79, who was at Base Camp after the shot, says, "I'm just amazed how those scientists whipped out so many bottles of gin or whatever they could find. And it was rapidly consumed, I can tell you that."

Writer Lansing Lamont in 1965 recorded secondhand some GI exclamations: "Buddy, you just saw the end of the war!" "Now we've got the world by the tail!"

At South 10,000, Frank Oppenheimer recalled, his brother probably said, "It worked!" Kistiakowsky is supposed to have said to Robert Oppenheimer, "You owe me 10 dollars" because of a bet they had. Bainbridge is supposed to have told Oppie, "Now we are all sons of bitches."

At Compania Hill, Teller remembers, "I was impressed."

Hans Bethe, now 89, remembers his first thought was, "We've done it!" and his second was, "What a terrible weapon have we fashioned."

FLEEING THE RADIATION

At North 10,000, Brixner and the others were thinking suddenly only of a kind of hazard the world had never known. "I was looking up, and I noticed there was a red haze up there, and it seemed to be coming down on us," he says.

"Pretty soon the radiation monitors said, 'The radiation is rising! We've got to evacuate!' I said, 'That's fine, but not until I get all the film from my cameras.'" In the midst of the world's first fallout, somebody helped Brixner throw his last three cameras in an Army car, and they all got out of there fast. Film badges later showed they got low doses—by the standards of the time.

About 160 men were waiting secretly north of the Jornada with enough vehicles to evacuate the small communities in the probable fallout path. Gen. Groves had phoned Gov. John Dempsey before the test to warn him that he might be asked to declare martial law in southwest New Mexico.

But the radiation readings from people secretly stationed all over New Mexico stayed safe—again by the standards of the time.

The test was shrouded in secrecy, but, within weeks, the world would know what science had wrought in a lonely stretch of New Mexico desert.

When Teller returned to his Los Alamos office, he says, Mary Argo ran to him, breaking all the secrecy rules, "'Mr. Teller! Mr. Teller! Did you ever see such a thing in your life?' I laughed. And she laughed," he says with joy in his voice. "Does that tell you something?"

At community radio station KRS in Los Alamos, Bob Porton, a GI, was about to rebroadcast the noon news, courtesy of KOB. "Suddenly, about 30 or 40 scientists all came in and stood around," he says. "We knew something was up."

The lead story, Porton says, was this: "The commanding officer of Alamogordo Air Base announced this morning a huge ammunition dump had blown up, but there were no injuries."

"All these scientists jumped up and down and slapped each other on the back," Porton says. "I was familiar with secrecy. I never asked any questions. But I knew it was something big."

It was something big. What they'd heard was the coverup story for the first atomic bomb blast.

COUNTING BACKWARD AGAIN

Brixner was on his way to Hollywood to get his film developed in secrecy at a studio lab. One reel showed his jerk of the camera.

Aebly developed his color film that night in Los Alamos, using the complex system of a half dozen Ansco chemicals. The first shot of the bomb was overexposed off the scale, but one of the next three became the only good color picture known of the first atomic explosion.

Weeks later, Ellen Wilder Bradbury of Santa Fe recalls, the Wilder family tuned in the only radio they had, in their car, to hear a wire recording broadcast over KRS. Ellen was about five and hadn't understood about Hiroshima. And now she was hearing a recording made in the cockpit of Bocks Car,

the B-29 that dropped "Fat Man," identical in design to the Trinity bomb, on Nagasaki.

Ellen, who would marry Norris Bradbury's son, recalls the now-lost recording clearly: "They said, 'We've got an opening in the clouds. OK. We're going ahead.' And then they counted down to drop it. And they did say, 'Bombs away!' But I had just learned to count, and I was most impressed by the fact that they could count backwards."

LOCALS HAD RINGSIDE SEAT TO HISTORY

(By Fritz Thompson)

Sparkey Harkey and his son, Richard, were standing in the gloom before dawn, waiting for a train at Ancho, N.M., when the bomb went off.

"Everything suddenly got brighter than daylight," Richard Harkey remembers today. "My dad thought for sure the steam locomotive had blown up."

It was 5:29.45 a.m. on July 16, 1945. Harkey and his father didn't know it then, but they had just witnessed, in that instant 50 years ago, an event that came to change the course of history and to thereafter touch the lives of everyone in the world.

It was mankind's first detonation of an atomic bomb—at Ground Zero on the empty, foreboding sweep of some of the most desolate land in New Mexico; Jornada del Muerto, it is called, the Journey of Death.

Awesomely thunderous, the explosion transformed the sand in the desert to green glass, hurled dust and smoke thousands of feet into the sky and startled the bejabbers out of early morning risers in central New Mexico.

The place where the bomb exploded is called Trinity Site, and it was 50 miles and a mountain range away from the Harkeys, standing as they were on the tracks, mouths agape, bathed in the glow from man's most fearsome and terrible weapon. That they could see a manmade light brighter than the sun from their far vantage point attests to the incredible power unleashed that morning.

Ancho was not even a whistle-stop then. Sparkey, the stationmaster, was out on the tracks, ready to wave a red flag to stop the train so Richard, then 18, could board and ride to his job in Tucumcari.

"It was a blinding flash and it lasted at least a full minute," Richard says. "We didn't know what it was."

Was he curious?

"Yeah. But when you see something like that you're so flabbergasted that you just let it go."

THE SUN WAS COMING UP

Ranchers and other residents on both sides of the Oscura Mountains had a ringside seat to the explosion but didn't know it. In one of the best-kept secrets before or since, civilians had no warning.

The lone exception was the late José Miera, proprietor of the Owl Bar in San Antonio, a mere 35 unobstructed miles northwest from Trinity and a popular hangout for the site's scientists and soldiers. Rowena Baca, who runs the family establishment these days, says friendly MPs that night went to her grandfather's house, woke him up, "and told him to stand in the street out front because he was going to see something he had never seen before."

Sure enough.

Baca remembers that the sky suddenly turned red. It illuminated the inside of the house she was in, reflecting red off the walls and the ceiling.

"My grandmother shoved me and my cousin under a bed," Baca remembers, "because she thought it was the end of the world."

At the same moment, a U.S. Navy aviator named John R. Lugo, now of Scottsdale,

Ariz., was flying a naval transport plane at 10,000 feet some 30 miles east of Albuquerque, en route to the West Coast.

"I saw this tremendous explosion to the south of me, roughly 55 miles from my position," Lugo recalls. "My first impression was, like, the sun was coming up in the south. What a ball of fire! It was so bright it lit up the cockpit of the plane."

Lugo radioed Albuquerque. He got no explanation for the blast, but was told "don't fly south."

As the sun itself finally rose, rancher Dolly Onsrud of Oscuro woke up, looked out her window and saw a mushroom cloud rising from the other side of the mountains—right about where her cattle-grazing land had been before the U.S. Army took it over three years earlier.

She had been none too happy about giving up her 36 sections, and now it looked as if the government was blowing it up.

Like Onsrud, most ranchers who witnessed some aspect of the blast are the same ones who were moved off what became White Sands Missile Range. They are still bitter—bitter that the Army never returned the land, bitter that they weren't more generously compensated for giving up their ranches for what they believed was a patriotic duty. And, these days, they would much rather talk about their lost lands than about the first atomic bomb.

With the passage of half a century, these same people also find it remarkable that the government never warned them about an event that some scientists thought might set off a chain reaction and destroy all humanity.

The fact was, not many workers at Trinity knew for sure what they were working on. Retired teacher Grace Lucero of San Antonio said soldiers who came to the bar that her husband operated told him they were building a tower. "They said they didn't know what it was for," Lucero says. The tower, everyone later learned, steadied the bomb before it was detonated.

"No one knew what was going on out there," says Evelyn Fite Tune, who lives on a family ranch 24 miles west of Trinity. "And of course none of us ever heard of Los Alamos or the atomic bomb."

She and her late husband, Dean Fite, were away in Nevada when the blast went off. They couldn't tell from the news accounts of those days exactly where it happened.

"Finally, on the way back we went to a movie house in Denver and watched the newsreel," she says. "When they showed the hills around the blast area, my husband said 'Hell, that's our ranch!'"

Pat Withers lives south of Carrizozo. He is 86 now and has been a rancher all his life. His house is 300 yards from the black and hardened lava flow that's sometimes called the malpais.

"The explosion was loud enough that I jumped out of bed," he says. "I thought the malpais had blown up. It wasn't on fire, so I went back to bed."

Few ranchers had an experience to match that of William Wrye, whose house then and now is 20 miles northeast of Trinity.

Wrye and his wife, Helen, had been returning from a tiring trip to Amarillo the night before the explosion. "We got to Bingham (on U.S. 380) and there were eight or 10 vehicles and all kinds of lights shining up on the clouds. We were stopped by an MP and a flashing red light. After we told them who we were, they let us go on to the ranch. We were so tired we must have slept right through the blast."

"Next morning, we were eating breakfast when we saw a couple of soldiers with a little black box out by the stock tank, I went out there and asked what they were doing, and

they said they were looking for radioactivity. Well, we had no idea what radioactivity was back then. I told them we didn't even have the radio on."

"For four or five days after that, a white substance like flour settled on everything. It got on the posts of the corral and you couldn't see it real well in the daylight, but at night it would glow."

Before long, Wrye's whiskers stopped growing. Three or four months later, they came back, but they were white, then later, black.

Cattle in the area sprouted white hair along the side that had been exposed to the blast. Half the coat on Wrye's black cat turned white.

END OF INNOCENCE

Out at the north end of the Oscuro range, 30 miles from Trinity, rancher Bill Gallacher was 15 years old. He remembers the blast, that it lighted up the sky and the rooms in his house, much brighter than a bolt of lightning. His father, evidently man of few words who was just getting out of bed, simply said "Damm."

"It was a sort-of-sudden deal," Gallacher says, "especially before you've had your morning coffee."

Several ranchers say they never believed the Army cover story that an ammunition dump had blown up. But they didn't guess what it was until the devastation of bombs at Hiroshima and Nagasaki weeks later. Even then, they didn't guess the import of what had been wrought in their backyard.

Evelyn Fite Tune and her friends and neighbors visited the site soon after. "We found the hole, we picked up the glass, we climbed the twisted and melted parts of the tower," she says.

"All those people," she says, "grew up and got married and had kids. Nobody that I know of ever turned up sterile."

Back at the Wrye Ranch, Helen Wrye goes to the front door, gazing at the sweep of prairie and desert, the Oscuras looming to the south, 20 miles from here to Trinity. She speaks of this dawn of the atomic age, and she sounds wistful. "People weren't afraid of the government then," she says. "It was a time of innocence. People were trusting. We had never heard of an atomic bomb."

She is silhouetted against the sunlight of a bright spring day.

"It was a happy time to live," she says. "It was a happy time to live."

A-BOMB SCIENTISTS BEAR NO REGRETS

(By Patrick Armijo)

LOS ALAMOS.—The view from three Manhattan Project scientists was unanimous Thursday.

Questioned by Japanese journalists who wanted to know what they felt upon hearing about Hiroshima and Nagasaki, the three couldn't hide the pride they have in the work they did 50 years ago.

The retired scientists said their work on the bomb was vital to ending World War II—that bombing Hiroshima and Nagasaki was necessary to end prolonged fighting.

"It looked like very quickly it would be the end of the war, which otherwise who knew how long it would drag on?" Manhattan Project chemist John Balagna told Hiromasa Konishi of Japan America Television.

Konishi was at the Bradbury Science Museum with several other reporters from Japan, Britain and Australia to hear the Manhattan Project recollections of Balagna, L.D.P. "Perc" King and Joseph McKibben.

Balagna said the A-bombing of Hiroshima and Nagasaki kept someone from using the even more destructive hydrogen bomb in later years.

"The demonstration was so graphic, it put the fear of the Lord in everyone," he said. "That's what kept the Cold War cold."

He said he believes invading Japan would have resulted in more loss of life than the bombings.

The Japanese reporters' perspective differed.

"The director Steven Spielberg asked me why the cities were rebuilt and not kept as a memorial to genocide. It was like a genocide. The two bombs killed 200,000 people instantly," Konishi said.

Japan America Television was in Los Alamos working on stories for the 50th anniversary of the bombings.

Konishi said the bombing of Nagasaki, in particular, was "a difficult thing for the Japanese people to understand."

The Japanese still question the thinking behind the bombings, Konishi said, but his country for the past several years also has been coming to grips with its wartime "atrocities."

Itsuki Iwata, Los Angeles bureau chief for The Yomiuri Shibun, a Japanese newspaper, said he has conducted numerous interviews with the Manhattan scientists, and virtually all report they had few moral qualms about using the A-bomb.

"The view of the scientists is very much like the point of view you hear today. I think this is a very difficult thing for the scientists to talk about," Iwata said.

For King the problems people face today can't be superimposed onto 1945.

"We were terribly worried that Hitler had it (the bomb). It was the inspiration to work very long hours, six days a week," he said.

Balagna, who lost a brother in France about a month after D-Day, said, "My only regret is that we didn't finish in time to use it on Hitler."

WAS CONGRESS IRRESPONSIBLE? THE VOTERS HAVE SAID YES

Mr. HELMS. Mr. President, the incredibly enormous Federal debt is like the temperature outside—rising rapidly. As for the rising Federal debt, Congress had better get cracking—time is a-wasting and the debt is mushrooming and approaching the \$5 trillion level.

In the past, a lot of politicians talked a good game, when they were back home with the voters, about bringing Federal deficits and the Federal debt under control. But many of them regularly voted in support of bloated spending bills that rolled through the Senate like Tennyson's brook. So look at what has happened:

As of Friday, July 14, at the close of business, the Federal debt stood—down to the penny—at exactly \$4,933,039,330,339.52. This debt, remember, was run up by the Congress of the United States.

Mr. President, most citizens cannot conceive of a billion of anything, let alone a trillion. It may provide a bit of perspective to bear in mind that a billion seconds ago, the Cuban Missile Crisis was in progress. A billion minutes ago, the crucifixion of Jesus Christ had occurred not long before.

Which sort of puts it in perspective, does it not, that Congress has run up an incredible Federal debt totaling 4,808 of those billions—of dollars. In other words, the Federal debt, as I said earlier, stood this morning at opening time at four trillion, 933 billion, 39 million, 330 thousand, 339 dollars and 52